

A Mathematics Faculty Handbook

Why have a Faculty Handbook?

The **real** necessity of having a Mathematics Faculty handbook in your school depends on a number of factors. These may include:

1. The size of your school

The larger the number of Mathematics teachers, the more difficult it is to effectively communicate with each other. Communication helps keep everyone aware of what's happening and (hopefully) heading in the same direction.

2. The location of your Mathematics staff

Are all of your Mathematics staff together in one room? If so, be happy - information is easier to exchange! If your staff are spread out around the school in different locations, then it is important for them to be regularly talking/communicating with each other so that people are on the 'same page' as much as possible. The casual exchanges such as "Where are you up to with Year 9?" "Have you worked out how you're going to teach Compound Interest to Year 10?" and so on are SO important. And even if you do have a couple of staff located elsewhere in the school, there is even greater danger of these "outliers" missing out on important decisions/ideas/etc - so keep them informed!

3. New Staff to your School

When a new staff member arrives to teach at your school, they need something in their hands that will answer the majority of questions that have about what they are meant to do, how they are meant to do it and when they are meant to do it by!

4. Just knowing what's coming up - next week, next term and so on

Schools are now such busy places with so many things happening at once that staff really need to know well beforehand where they are meant to be up to in the program, when Assessment tasks/Exams are being held, when they have to actually write an assessment task/exam, when Parent/Teacher nights are on, and so on and so on. With so much information to be processed and acted upon, they need to have as much of this as is feasibly possible collected in one physical place. And a tangible handbook that can be carried into classes, taken home, taken anywhere enables them to answer their questions when these occur to them.

What could/should you put in your Faculty's Handbook?

For every Mathematics course throughout Years 7 - 12, the following four documents:

- **Program Summaries for every course**
- **"Registers" for every course**
- **Date/Days/Periods of Assessment tasks/exams for every course and Setters/Assessors for every Assessment task/exam for every course**
- **Weeks/Weightings/Descriptions for every course**

• **Program Summaries for every course**

Use a table in Word to show the number of weeks in each term and then use the borders of the table to construct a term-by-term and week-by-week breakdown of which topics need to be taught at what times. This table also gives a brief snapshot of the topic order and general flow of the course.

Staff should know that the schedule is (obviously) somewhat flexible, but they should generally ensure they follow this order of topics, particularly in the lead-up to any Assessment tasks/exams

Hence, one should also include the timing of any Assessment tasks, as well as showing any longer-term Exam timeslots, school camps or any other major events that occur in certain weeks.

The location of any Parent/Teacher nights is also very helpful.

Note : This is NOT meant to replace the longer and more detailed Course Programs that are so vital to all staff being able to teach a course consistently and well, but rather to supplement such documents. Staff should always be encouraged/reminded to "teach to the program and not the textbook".

(It is also **extremely** worthwhile to distribute this summary to all students studying the particular course at the start of each year. Then each student can clearly see why the teacher needs to complete certain topics by certain times, as well as giving the students no excuses when they say “But I didn’t know...”)

- **“Registers” for every course**

Instead of using some centralised folder or something which staff tick off when they’ve completed a particular topic, by having that “register” in their hands all the time enables staff to immediately evaluate how that topic went, list any assessment or technology they may have used and include along the way any improvements/changes that could/should be made to this course for following years.

- **Date/Days/Periods of Assessment tasks/exams for every course**

and

- **Setters/Assessors for every Assessment task/exam for every course**

This is the hardest part of the Handbook to put together but, once completed, having this information available to all staff within the dept within a few weeks of the start of the school year is priceless.

The actual days and periods of each Assessment task are “booked in” with my Deputy Head firstly, before being placed on the school’s Semester Calender to ensure that other school activities don’t gazump our scheduled Assessment tasks (as this leads to many painful additional hours as you then try to reschedule things to avoid students getting caught in the middle and being disadvantaged)

At Barker, we have two staff members assigned to putting together each Assessment task/Exam - each with specific duties (as per the Assessment Checklist document). I sit down and determine all Setters/Assessors for the entire year at once. This makes it easier to be equitable to all staff within the dept as well as avoiding any member of staff being overloaded at particular times of the year.

- **Weeks/Weightings/Descriptions for every course**

This information is a copy of what is distributed to every student in a Year Group as part of their Assessment Schedule Booklet. It completes all of the details concerning each Assessment task/exam.

Why include all of this information for every course within the handbook when only some of it will be relevant to each member of staff?

- It is easier to produce one common booklet than a different version for member of staff
- Using different coloured paper for the documents of each course, this makes it easier for staff to find the relevant information for the courses they are teaching
- It is not unusual for staff to need to find details of courses they are not teaching in a particular year (e.g. our Trial HSC exams are set by staff not teaching the course in that particular year)

Other Important/Worthwhile Documents to include within the Handbook

- **Course Outcomes for General, 2 Unit, Extension 1 and Extension 2 Mathematics**

The 2 Unit “Calculus-based” Mathematics, Extension 1 and Extension 2 course outcomes are listed within the same document, while the General Mathematics course outcomes are best described in the “Linking Outcomes to Units of Work” table given within the General Mathematics Stage 6 Support Document. See the BOS website for both of these documents.

- **Course Outcomes for Years 7 - 10 Mathematics**

The outcomes for the six different strands from Early Stage 1 to Stage 5.3 should be included. The most useful version of these outcomes is contained within the pages starting from “3.1 Pathways of Learning” in the Mathematics Years 7-10 Syllabus document.

- **One page summary of which staff are teaching which classes**

Any streaming of courses/classes and which classes are located on each of the different lines of the timetable can also be included on this page. This should be the opening page of the handbook since staff regularly need to communicate with other teachers of the same course. This page can easily be constructed using Excel or another spreadsheet application.

- **Faculty rooming timetable**

This is particularly useful for when staff wish to quickly find out if another staff member is teaching or not during a particular period and, if they are teaching, which class/room this is happening in.

- **Mathematics Dept policy documents**

Any documents concerning particular policies of the department should be included - particularly for any new members of staff to read and use. Of course, the number and style of these documents will vary from school to school, but by having these documents included in the handbook it brings all procedures and processes together in an easily accessible place (leaving staff with little excuse for not following them!)

- **Whole School Examination and Reporting Schedules**

Depending on each school, this information may be difficult to include in the Handbook if it hasn't been determined early enough in the school year. However, this is valuable information for all staff to know well ahead of time and, again, by having it in an easily accessible place staff have little excuse when deadlines loom large before them.

Some other worthwhile documents which one could include:

It is important that the Handbook NOT become too bulky and complicated. It is designed as a "summary document" rather than giving every detail of every course/program/process/procedure/whatever.

However, some other information that I also include in our Handbook is:

- **List of staff responsible for each Pastoral Care group**

Barker's Pastoral Care structure has each student under the "care" of a particular Head of House/Tutor, along with an Associate from within each House/Tutor Group. It is Barker's expectation that all issues concerning each student are channelled through the designated Head of House/Tutor. Hence, it is worthwhile having immediately at hand a list of these Heads of House/Tutors for staff to access.

- **Outdoor Education Compulsory School Camp program**

All Barker students head off to various camps/etc at various times. While this is (of course) extremely disruptive and frustrating, having some idea of what's happening when can sometimes help staff plan ahead and avoid disadvantaging students.

- **Any other ideas???**

Year Mathematics Program Summary 2007

Week Term 1 Term 2 Term 3 Term 4

1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				

Note : Year ? Grange is on in Term 1 : Weeks and Term 2 : Weeks

MAZE class code & teacher :

Textbook used : “” -

<u>Topic List</u>	Sugg- ested Weeks	Actual Weeks Taken	<u>Evaluation</u>	Chptr of text	Assessment/ Technology Used

Year 11 Ext 1 Mathematics Program Summary 2006

<u>Week</u>	<u>Term 1</u>	<u>Term 2</u>	<u>Term 3</u>	<u>Term 4</u>
1	Basic Algebra and Arithmetic	Intro. Calculus (cont.)	Geom. Appln of the Deriv. (cont.) (AMC)	Exponential and Logarithmic Functions
2		Plane Geometry		
3	Coordinate Geometry	(Major Ass 2)	Sequences (Ass3)	Trigonometric (2U HSC Ass 1) Functions
4	Functions, Graphs and Regions	Quadratic Polynomials	& Series and their Applications (incl. Math Induction)	
5	Index and Log Laws (Ass 1)	Locus and The Parabola		
6	Basic Trigonometry	Geometric Applns of the Derivative	Integration	Probability
7	Introductory Calculus (P/T)			Exams
8				
9				
10				
11			Camp	

Note : No official half-yearly exam period timetabled
Various Ext 1 Miscellaneous topics will be sprinkled throughout the year
 MAZE class code & teacher :

Textbook used : "Combined 2 Unit Course" – Pink Coroneos (+ HSC Orange Coroneos)

<u>Topic List</u>	Sugg-ested Weeks	Actual Weeks Taken	<u>Evaluation</u>	Chapters of text	<u>Assessment/ Technology Used</u>
Basic Algebra and Arithmetic (+ harder inequalities)	2			1, 2, 4, Set 5K (HSC 1D)	
Coordinate Geometry (+ division of interval)	1			7, Sets 8J, 8K (HSC 1F)	
Functions, Graphs and Regions	2.5			5, Sets 8A-8C	
Index and Logarithm Laws	1.5			Sets 8L-8N	

Basic Trigonometry (+ 3D Trig)	2			6, Sets 8D-8I (HSC 1E)	
Introductory Calculus	2.5			10	
Plane Geometry	1			3	
Quadratic Polynomials	1.5			11	
Locus and the Parabola	1.5			13	
Geometric Applns of the Derivative	3.5			12, Set 10H	
Sequences & Series and their Applns (+ Math. Induction)	4			9 (HSC 1C)	
Integration	2.5			14	
Exponential and Logarithmic Functions	2.5			15	
Trigonometric Functions (+limits, $A \pm B$ results, angle between lines)	2.5			16 (HSC 1G-1I)	
Probability	1			18	

Year 11 - Extension 1 Mathematics

Term 1 - Week 7 (A)

Date : Tues 14 March

Period : 2/3

Date : Wed 15 March

Period : 2

Due Date : Tues 7 March

Setter : BHC

Markers : Class teachers

Assessor : GDH

Major Assessment task - Term 2, Week 3 (B)

Date : Wed 17 May

Period : 2/3

Due Date : Term 1, Week 11

Setter : BJR

Markers : All Ext 1 teachers

Assessor : RMH

Term 3 - Week 3 (B)

Date : Tues 1 August

Period : 2/3/4

Due Date : Tues 25 July

Setter : VAB

Markers : Class teachers

Assessor : GDH

Semester 2 Exam - Term 3, Weeks 9, 10

Due Date : Term 3, Week 1

Setter : PJR

Markers : All Ext 1 teachers

Assessor : BHC

YEAR 11 MATHEMATICS EXTENSION 1

YEAR 11 Extension 1 - TERM 1

ASSESSMENT TASK	WEEK	%	DESCRIPTION OF TASK
Assessment Task 1	7	15	In class assessment involving testing of skills, applications and understanding of particular course concepts

YEAR 11 Extension 1 - TERM 2

ASSESSMENT TASK	WEEK	%	DESCRIPTION OF TASK
Major Assessment Task 2	3	25	Semester 1 Major Task In class (or otherwise organised) “Half-Yearly examination” involving testing of skills, applications and understanding of course material covered to date

YEAR 11 Extension 1 - TERM 3

ASSESSMENT TASK	WEEK	%	DESCRIPTION OF TASK
Assessment Task 3 (Note: Extension 1 students will also be required to complete the 2 Unit “Calculus-based” Mathematics Assessment task held a week earlier)	3	15	In class assessment involving testing of skills, applications and understanding of particular course concepts
Yearly Exam (Note: Extension 1 students will also be required to sit the 2 Unit “Calculus-based” Mathematics exam during this exam period)	9/10	45	Semester 2 Major Task Course Examination involving testing of skills, applications and understanding of course material covered to date